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EXAMINER	
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ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/715,127	YOKOI ET AL.	
	Examiner	Art Unit	
	Nathan A. Bowers	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *111803*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1) Claims 1, 3, 5 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Helwig (US 6129428).

With respect to claim 1, Helwig discloses a storage apparatus for storing samples on containers (Figure 2:8) inside a chamber (Figure 2:2) adjusted to predetermined ambient conditions. Column 2, lines 46-59 teach that the storage apparatus is used for incubating cell cultures and microorganisms without disturbing conditions within the apparatus during loading and unloading. A container transport device (Figure 7:11) is disposed inside the chamber in such a way that the transport device is centrally located between container accommodating racks (Figure 3:7) arranged on opposite sides. The transport device comprises a transport table (Figure 4:50) for placing the container thereon, and a drive mechanism comprising a plurality of motors designed to move the transport table in the X, Y and Z directions. This is disclosed in column 5, line 24 to column 6, line 32. A vertical (Z) drive motor (Figure 2:18) is provided for moving the transport table up and down, and a horizontal (X) drive motor (Figure 2:17) is provided

for moving the transport table towards the object storage devices (Figure 2:7). This motion is illustrated in Figures 4a and 4b. A turntable drive motor (Figure 2:19) is also included to rotate the transport table. The simultaneous activation of the turntable drive motor and the horizontal drive motor allows the transport table to move in the Y direction. Figure 7 shows the transport table ready to move in both the X and Y directions. The container accommodating racks have sides along the X-axis, and contain a plurality of container accommodating portions arranged along the Y-axis and the Z- axis. In this way, the containers are movable into or out of a container accommodating portion of the desired rack by the transport device.

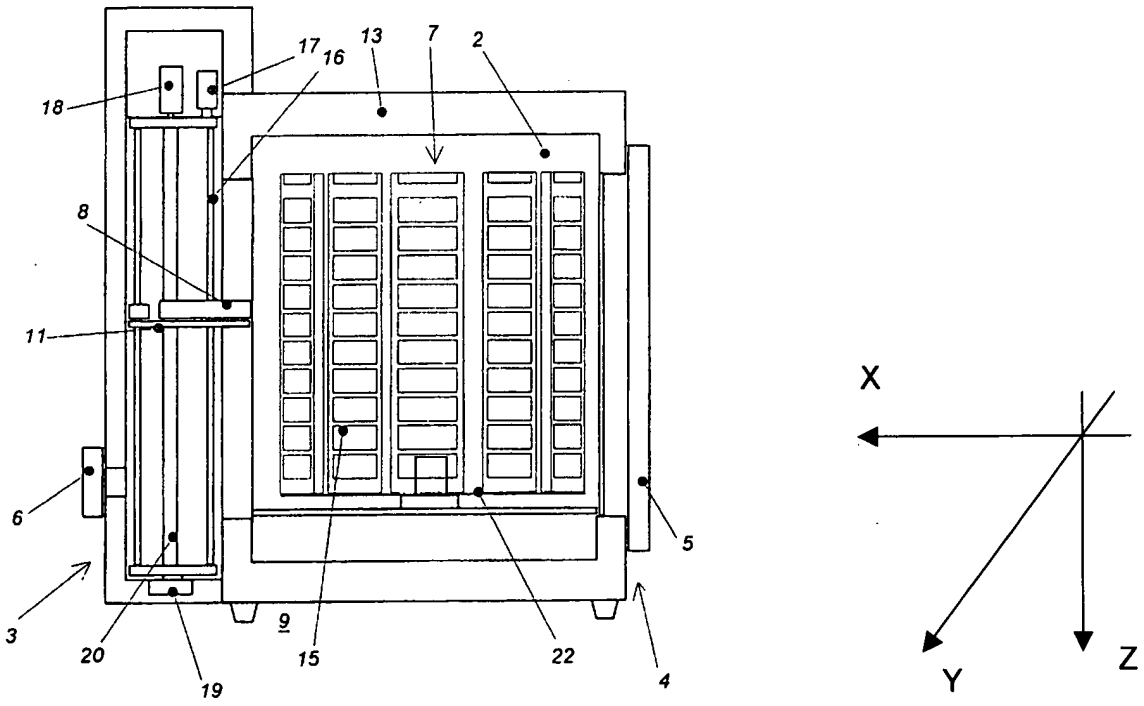

Fig. 2

With respect to claim 3, Helwig discloses the storage apparatus in claim 1, wherein the container accommodating rack (Figure 2:7) comprises a plurality of

stackers (Figure 2:15) arranged in the direction of the Y-axis, with each of the stackers comprising container accommodating portions provided in the Z-axis. The stackers, according to Figure 7, are arranged in a circular pattern, and are therefore aligned in both the Y and X directions to form a circular shape.

With respect to claim 5, Helwig discloses the storage apparatus in claim 1, wherein the chamber has a container inlet (Figure 2:6) for transporting the container into the chamber. The container inlet is operably connected to the transport table which functions as a carriage mechanism. This is apparent from Figure 4 and from column 4, line 66 to column 5, line 5 and column 5, line 43 to column 6, line 32.

With respect to claim 11, Helwig discloses a storage apparatus for storing samples on containers (Figure 2:8) inside a chamber (Figure 2:2) adjusted to predetermined ambient conditions. Column 2, lines 46-59 teach that the storage apparatus is used for incubating cell cultures and microorganisms without disturbing conditions within the apparatus during loading and unloading. According to column 5, line 24 to column 6, line 32, a container transport device (Figure 2:11) is disposed inside the chamber, and is capable of moving containers to a rack (Figure 2:7) comprising a plurality of container accommodating portions. Multiple drive motors (Figure 2:17, 18, 19) are provided for supplying power to the container transport device. The drive motors are positioned within the chamber and together with the main body portion of the container transport device.

2) Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Weselak (US 20030031602).

Weselak discloses a storage apparatus for storing samples on containers inside a chamber adjusted to predetermined ambient conditions. The containers are arranged upon a plurality of shelves (Figure 2:204) that are vertically aligned along the Z-axis and circularly aligned along the X and Y-axis. This is disclosed in paragraphs [0048] and [0049]. Figure 3 illustrates how the shelves may be positioned adjacent to openings (Figure 3:302) to facilitate the storage of containers within the incubator. Weselak does not expressly state that stackers are used to support the shelves, however the storage apparatus is so constructed in such a way that stackers inherently *can be* arranged within the interior volume if so desired. Weselak discloses in paragraphs [0016]-[0018] that the shelves contain identification information that allows the user to consistently keep track of shelf location and what samples containers are located on a specified shelf. The storage apparatus comprises storage means for storing the identification information, means for reading the identification information, and information processing means. Paragraphs [0014] and [0048] teach that a control means is also provided for controlling the operation of the apparatus body.

3) Claims 18-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Barbera-Guillem (US 6673595).

With respect to claim 18, Barbera-Guillem discloses a storage apparatus comprising an apparatus body (Figure 1:10) for storing samples on containers (Figure

2:22) inside a chamber adjusted to predetermined ambient conditions. This is taught in column 3, lines 9-67 and column 7, lines 48-65. The storage apparatus is characterized in that one or a plurality of container accommodating racks (Figure 2:20) are arranged inside the chamber. Column 6, lines 2-28 indicate that each of the containers is provided with identification information, and a means for reading the identification information. Column 19, line 66 to column 20, line 60 teaches that a mechanism of tracking and storing identification information is provided within the incubator apparatus. Column 22, line 52 to column 23, line 11 states that a control means is also provided for controlling the operation of the apparatus body with reference to the identification information stored in the storage means. Column 22, lines 40-51 gives an example in which a microprocessor controls the opening and closing of a discharge slot in response to information derived from the identification code reader.

With respect to claim 19, Barbera-Guillem discloses the apparatus in claim 18, wherein the container accommodating rack has arranged therein a plurality of container accommodating portions each for placing the container thereinto. Column 7, line 47 to column 8, line 26 indicates that each of the racks (Figure 2:20) is capable of holding a plurality of containers (Figure 2:22). Furthermore, column 9, line 17 to column 10, line 25 teaches that the apparatus body comprises a container transport device (Figure 2:40) installed inside the chamber that is capable of moving containers to and from the rack. Column 20, lines 47-60 state that the movement of the transport device is determined by a controller, which is capable of processing identification information that is read off of each container.

With respect to claim 20, Barbera-Guillem discloses the apparatus in claim 19, wherein the chamber has a container inlet (Figure 1:50) for placing the container into the chamber therethrough. Column 11, lines 7-33 teach that the container inlet is connected to a container carriage mechanism (Figure 5:56). Column 20, lines 15-25 teach that the identification information reading means is made part of the transport means (Figure 2:40). Figure 2 shows that the transport means is positioned opposite the container inlet.

With respect to claim 21, Barbera-Guillem discloses the apparatus in claim 18, wherein the apparatus body has an information display device (Figure 1:94). Column 19, line 66 to column 20, line 60 and column 22, line 40 to column 23, line 11 indicate that identification information placed on each container is used to control the movements of the containers throughout the apparatus body, and to coordinate at what time operations within the incubator will take place based on the location of the containers. The control means is operable to monitor the delivery time for a plurality of containers, and operate the incubator accordingly. Barbera-Guillem teaches that information derived from the identification code reader and/or position sensors is displayed on the display device. This information inherently could include delivery times representing the time of arrival of a container as it moves through different components of the incubator body.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helwig (US 6129428) as applied to claim 1, and further in view of Goffe (US 5882918).

Helwig discloses the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 102 rejection above, however does not expressly disclose a gas outlet for discharging a gas for adjusting the inside of the chamber to predetermined ambient conditions.

Goffe discloses an incubator storage apparatus for storing samples inside a chamber (Figure 1:4) adjusted to predetermined ambient conditions. The chamber is provided with centrally arranged gas outlets (Figure 1:26) which face the central space of the chamber. Column 4, lines 47-60 indicate that air is allowed to flow through the outlets to an additional section of the apparatus where it is either treated and returned to the incubation chamber, or simply expelled from the system.

Helwig and Goffe are analogous art because they are from the same field of endeavor regarding incubator systems.

At the time of the invention, it would have been obvious to add a centrally arranged gas outlet port between the container accommodating racks in the invention disclosed by Helwig. This would have allowed one to achieve better air circulation throughout the incubator chamber, which is important because air circulation generally helps to keep environmental conditions uniform throughout the entirely of the system. Centrally arranged air outlets are also beneficial, according to Goffe, because they can be used to extract air from the chamber, where it can be treated and returned or

removed completely from the incubator. This process is advantageous because it can be used to maintain certain parameters such as temperature and humidity at a desired level throughout the incubation process.

5) Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helwig (US 6129428) as applied to claim 3, and further in view of Yahiro (US 6228636) and Gonska (US 6568770).

Helwig discloses the apparatus set forth in claim 3 as set forth in the 35 U.S.C. 102 rejection above, however does not expressly disclose an opening in the chamber facing the direction of the Y-axis, or that the stackers are withdrawable through the opening along with the drawer upon which they are placed.

Yahiro discloses an incubator storage apparatus comprising a housing, a plurality of sample shelves, and an opening with a door facing the Y-axis. The plates are moved in an out of the incubator through the door after and prior to incubation procedures. This is taught in column 1, lines 45-59 and in column 5, lines 1-18.

Gonska discloses an incubator storage apparatus comprising a transport device (Figure 2:3) and a storage means (Figure 2:9). The storage means comprises multiple stackers for arranging a plurality of containers along the Z-axis. The stackers are positioned upon a drawer (Figure 5:11) installed within the base of the incubator. Gonska discloses a door (Figure 1:8) for the assembly through which stackers are slidingly removed. This is disclosed in column 3, lines 52-55.

Helwig, Yahiro and Gonska are analogous art because they are from the same field of endeavor regarding storage incubators.

At the time of the invention, it would have been obvious to provide an opening with a door facing the direction of the Y-axis in the invention disclosed by Helwig for facilitating the removal of the stackers. By mounting the stackers on a slidable base, the stackers may be easily removed from the device, which in turn reduces the amount of time that the interior of the incubator is exposed to the outside environment. Since the stackers are usually removed for maintenance purposes, it would have been beneficial to supply Helwig's invention with the means necessary to quickly undertake cleaning and upkeep procedures without interfering with the normal operation of the incubator.

6) Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helwig (US 6129428) as applied to claims 1 and 5, and further in view of Yahiro (US 6228636).

With respect to claim 6, Helwig discloses the apparatus set forth in claim 5 as set forth in the 35 U.S.C. 102 rejection above, however does not expressly disclose a shutter mechanism for opening and closing the container inlet.

Yahiro discloses the incubator as described in the rejection above. Yahiro also discloses an inlet (Figure 1:202) for transporting the container into the chamber. In column 2, line 53 to column 3, line 2, Yashiro teaches that the inlet comprises a shutter mechanism (Figure 1:5) for opening and closing the container inlet.

At the time of the invention, it would have been obvious incorporate Yahiro's shutter in Helwig's apparatus since the shutter is capable of effectively blocking the container inlet when not in use. This type of restricted access way would have been desirable because it would have prohibited contaminants from entering the incubator during operation. Yahiro teaches in column 1, lines 30-35 that unless a shutter is provided, the gaseous atmosphere inside the incubator will flow out of the chamber and the open air will flow into the chamber, thereby drastically altering the temperature and humidity inside. This is critical since many growing microorganisms are sensitive to environmental changes.

With respect to claim 10, Helwig discloses the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 102 rejection above, however does not expressly disclose the use of a control device that causes the container transport device to move in the direction of the Y and Z axis at predetermined timing to thereby promote the circulation of air inside the chamber.

Yahiro discloses the apparatus as previously described. In addition, Yahiro teaches in column 4, lines 54-64 that the storage shelves (Figure 1:10) are moved according to a controller in order to promote agitation of the atmosphere inside of the incubator. The storage shelves undergo vertical displacement (Z-axis) and are rotated (X and Y-axis displacement) in order to adequately circulate the air inside the chamber.

At the time of the invention, it would have been obvious to program a controller to manipulate the motion of the container transport device to facilitate the circulation of air

in the apparatus disclosed by Helwig. Although Yahiro teaches that storage shelves undergo motion to induce circulation, essentially any movable component of Helwig's invention could be used to perform the same task. The displacement of the storage apparatus in the Z and Y directions disclosed by Yahiro could easily be applied to Helwig's container transport device and would provide the same benefits. By moving the container transport device according to a predetermined timing, one would have been able to promote air circulation and insure that all areas of the incubator are characterized by the same environmental conditions.

7) Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helwig (US 6129428) as applied to claim 5, and further in view of Khan (US 3618734).

Helwig discloses the apparatus set forth in claim 5 as set forth in the 35 U.S.C. 102 rejection above, however does not expressly disclose an air curtain mechanism for producing an air stream curtain for the container inlet.

Khan discloses a storage apparatus for storing samples on containers inside a chamber adjusted to predetermined ambient conditions. A plurality of vertically placed shelves (Figure 2:34) are mounted within the storage apparatus and may be designed to hold a plurality of samples and permit airflow through the chamber. This is disclosed in column 2, lines 5-56. Column 3, lines 1-50 indicate that the chamber is provided with an air curtain mechanism for producing an air stream curtain for the container inlet.

Helwig and Khan are analogous art because they are from the same field of endeavor regarding incubator systems.

At the time of the invention, it would have been obvious to incorporate an air curtain mechanism in the apparatus disclosed by Helwig. The creation of an air stream curtain across the container inlet when the chamber is opened would have prevented entry of outside air into the incubator. Khan teaches in column 3, lines 1-7 that such a device is beneficial because it allows the interior of the chamber to be maintained at a uniform and proper temperature by avoiding the free exchange of gases in and out of the incubator. This is critical in many incubation procedures since many microorganisms are sensitive to changes in the immediate environment.

8) Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helwig (US 6129428) as applied to claim 1, and further in view of Smith (US 6690994).

Helwig discloses the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 102 rejection above. Helwig discloses that the drive mechanism of the container transport device comprises individual transport assemblies for driving the transport table in the directions of the X, Y and Z-axis. Each transport assembly comprises a motor (Figure 2:17, 18, 19) and associated components from inducing motion in a certain direction. Helwig, however, does not disclose that the Y-axis transport assembly comprises a reciprocating movable body having a lower end portion and an upper end portion engaged respectively with a lower guide rail and an upper guide rail.

Smith discloses a storage system comprising an automated robotic device for moving containers (Figure 1:14). Column 2, line 64 to column 3, line 15 and column 3, line 52 to column 4, line 42 teach that the robotic device comprises a gripper

mechanism for grasping a container and moving it in and out of an accommodating portion (Figure 1:12) of the storage system in the direction of the X-axis. The gripper is movable in the direction of the Z-axis along a chassis (Figure 1:24). The gripper also undergoes reciprocal motion in the direction of the Y-axis along upper and lower guide rails (Figure 1:22). Although Smith discloses that the primary use of the storage system is for sorting tape cartridges in a data storage library, Smith states in column 3, lines 52-65 that disclosed automated robotic device is to be used in any storage system involving the movement of individual containers.

Helwig and Smith are analogous art because they are from the same field of endeavor regarding storage systems involving container transport devices.

At the time of the invention, it would have been obvious to replace the pivoting, turntable Y-axis transport assembly disclosed by Helwig with the Y-axis transport assembly disclosed by Smith. Smith's design would provide a more versatile range of motion in the Y-axis direction, and would more easily and efficiently be able to transport containers between accommodating portions. Smith's design utilizes similar X-axis and Z-axis transport assemblies, and therefore would be operable when incorporated into Helwig's incubator storage apparatus.

9) Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helwig (US 6129428) as applied to claim 1, and further in view of Kremerman (US 20040001750).

Helwig discloses the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 102 rejection above. Helwig shows in Figure 7 that the drive mechanism (Figure 7:11) of the container transport device uses a belt drive mechanism to turn the transport table to facilitate movement in the Y direction. Helwig, however, does not disclose that the belt drive mechanism is made of stainless steel.

Kremerman discloses a robotic arm that utilizes a belt drive mechanism to produce three-dimensional motion for moving semiconductor wafers along the direction of the X-axis, Y-axis and Z-axis. This is disclosed in paragraphs [0012], [0013], [0135] and [0136]. Paragraph [0158] teaches that the belt drive mechanism is made from stainless steel.

Helwig and Kremerman are analogous art because they are from the same field of endeavor regarding laboratory scale material transport devices.

At the time of the invention, it would have been obvious to utilize stainless steel in the construction of the belt drive mechanism of the container transport device disclosed by Helwig. Stainless steel materials are well known in the art to be durable, dependable and corrosion resistant. Kremerman teaches in paragraph [0158] that stainless steel belt drive mechanisms generate fewer particles during use. This is important in incubation systems since biological procedures must be protected against contamination.

10) Claims 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helwig (US 6129428) as applied to claim 11, and further in view of Kapka (US 5635398).

Helwig discloses the apparatus set forth in claim 11 as set forth in the 35 U.S.C. 102 rejection above. In addition, Helwig teaches that the motors (Figure 2:17,18, 19) serving as the power source for the container transport device are accommodated in motor cases that are separated from the incubator chamber. This is illustrated in Figure 2. Helwig, however, does not expressly state that air admitting and venting hoses are introduced into the motor cases to circulate air through the interior space of the motor cases.

Kapka discloses an incubator (Figure 4:39) for containing a plurality of sample containers (Figure 1:15). The containers are rotated by a transport device (Figure 1:1) that is driven by a motor residing in a motor case (Figure 1:17). This is disclosed in column 1, lines 42-60, column 2, lines 47-65 and column 3, lines 41-54. Column 3, lines 14-25 indicate that air is circulated throughout the motor case and across the motor in order to prevent the accumulation of condensation. Although Kapka does not expressly disclose the use of tubes to introduce the circulating air to the motor case, the utilization of tubes to carry an airflow is well known in the art and is simply a design choice.

Helwig and Kapka are analogous art because they are from the same field of endeavor regarding the use of motorized container transport devices in incubators.

At the time of the invention, it would have been obvious to blow air across the motors residing in the motor cases of the invention disclosed by Helwig in order to cool the motors during use and prevent the accumulation of condensation. Kapka teaches that condensation is a common problem for motors residing within incubators, and that

steps must be taken in order to ensure that the motors are capable of operating efficiently in an undesirable environment. Placing the motors in a separated casing would have helped isolate the motors from adverse temperatures and humidity. Blowing air across the motor would have pneumatically forced any accumulated condensation into the air vent exit and away from the motor. It would have been obvious to transport the air stream to and from the motor case using tubing if one was unable to directly install a fan in close proximity to the motor.

11) Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helwig (US 6129428) as applied to claim 11, and further in view of Kapka (US 5635398) and Blair (US 3445743).

Helwig discloses the apparatus set forth in claim 11 as set forth in the 35 U.S.C. 102 rejection above. Helwig states that the container transport device motors are controlled by a controller, however does not expressly state that the controller feeds the motors with a revolution number zero control signal and drive current when incubation procedures are brought out of operation in order to discourage the formation of water condensation on the motors.

Blair discloses a motor (Figure 1:10) that is controlled by a controller (Figure 1:11) which sends a small current to the electrical input leads of the motor after the motor has been turned off. This small current is capable of keeping the interior of the motor at an elevated temperature in order to avoid the problem of condensation. This is

disclosed in column 1, line 48 to column 2, line 9. Column 1, lines 24-40 indicate that the disclosed motor system is intended to be used in high humidity environments.

Kapka discloses in column 3, lines 14-25 that the accumulation of condensation on motors is a problem associated with many incubation chambers that utilize automated container transport mechanisms.

Helwig, Blair and Kapka are analogous art because they are from the same field of endeavor regarding the use of motors in high humidity environments.

At the time of the invention, it would have been obvious to utilize the motor heating process disclosed by Blair in the incubator apparatus disclosed by Helwig. Blair teaches in column 1, lines 24-40 that motors, when used in high humidity environments, tend to promote condensation when turned off. This moisture can be very harmful to the motor windings, and can be avoided by constantly sending a small current to the motor even when the motor is not in operation (a revolution number zero control signal and drive current). Kapka indicates in column 3, lines 14-25 that, since the accumulation of excess condensation is a problem in cell culturing devices, Blair's motor heating system would prove beneficial in incubation procedures, like Helwig's, that rely on motors to move components of the incubator during processing.

12) Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barbera-Guillem (US 6673595) in view of Weselak (US 20030031602).

With respect to claim 15, Barbera-Guillem discloses a storage apparatus comprising an apparatus body (Figure 1:10) for storing samples on containers (Figure

2:22) inside a chamber adjusted to predetermined ambient conditions. This is taught in column 3, lines 9-67 and column 7, lines 48-65. The storage apparatus is characterized in that a container accommodating rack (Figure 2:20) is arranged inside the chamber, and is divided into a plurality of circularly arranged stackers. Containers are arranged in each stacker along the Z-axis. Column 6, lines 2-28 indicate that the apparatus utilizes identification information and a means for reading the identification information as a method for tracking samples that are disposed within the invention. Column 19, line 66 to column 20, line 60 teaches that a mechanism of tracking and storing identification information is provided within the incubator apparatus. Column 22, line 52 to column 23, line 11 states that a control means is also provided for controlling the operation of the apparatus body with reference to the identification information stored in the storage means. Column 22, lines 40-51 gives an example in which a microprocessor controls the opening and closing of a discharge slot in response to information derived from the identification code reader. Barbera-Guillem, however, states that the identification information is used to track the movement of the containers, rather than stackers.

Weselak discloses an incubator storage apparatus that comprises a plurality of shelves (Figure 1:104) that are arranged vertically as stackers. Figure 3 illustrates how the shelves may be positioned adjacent to openings (Figure 3:302) to facilitate the storage of containers within the incubator. Weselak discloses in paragraphs [0016]-[0018] that the shelves contain identification information that allows the user to consistently keep track of shelf location and what samples containers are located on a specified shelf.

Barbera-Guillem and Weselak are analogous art because they are from the same field of endeavor regarding incubator storage apparatuses that provide automatic sample handling.

At the time of the invention, it would have been obvious to provide each of the stackers disclosed by Barbera-Guillem with identification information. This would have allowed one to track the movements of the stackers in and out of the incubators in order to keep track of the contents of each stacker. Weselak teaches that it is common practice to remove stackers from an incubator, and subsequently replace the old stacker with a new one. Since the stackers carry the material that is being incubated within the containers, it would have been important to know at any given time where a desired stacker is located (what incubator it is in). Barbera-Guillem teaches that the identification information is in the form of a barcode or a similar coded device, which intrinsically could be positioned upon the stackers, as well as the containers.

With respect to claim 16, Barbera-Guillem and Weselak disclose the apparatus set forth in claim 18 as set forth in the 35 U.S.C. 103 rejection above. In addition, Barbera-Guillem teaches that the stacker has arranged therein a plurality of container accommodating portions each for placing the container thereinto. Column 7, line 47 to column 8, line 26 indicates that each of the racks (Figure 2:20) is capable of holding a plurality of containers (Figure 2:22). Furthermore, column 9, line 17 to column 10, line 25 teaches that the apparatus body comprises a container transport device (Figure 2:40) installed inside the chamber that is capable of moving containers to and from the rack. Column 20, lines 47-60 state that the movement of the transport device is

determined by a controller, which is capable of processing identification information that is read off of each container.

With respect to claim 17, Barbera-Guillem and Weselak disclose the apparatus set forth in claim 18 as set forth in the 35 U.S.C. 103 rejection above. In addition, Barbera-Guillem teaches that the apparatus body has an information display device (Figure 1:94). Column 19, line 66 to column 20, line 60 and column 22, line 40 to column 23, line 11 indicate that identification information is used to control the normal functioning of incubator operations. If placed on the stackers, the identification information would intrinsically be used to control incubator operations based on the whereabouts of the stackers. The control means would be operable to monitor the maintenance time for a plurality of stackers, and operate the incubator accordingly. Barbera-Guillem teaches that information derived from the identification code reader and/or position sensors is displayed on the display device. This information inherently could include maintenance times representing the status of a stacker as it is being loaded and unloaded from the incubator storage device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan A. Bowers whose telephone number is (571) 272-8613. The examiner can normally be reached on Monday-Friday 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

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